

## Technical Data Sheet

**Vitamide BF13 BLK 2421**

Polyamide 6

**Product Description**

Vitamide BF13 BK 2421 is a Polyamide 6 material and is typically used in Injection Molding applications.

**Processing Method**          Injection Molding

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Density	1.18	g/cm <sup>3</sup>	ISO 1183
Viscosity Number, (96% H <sub>2</sub> SO <sub>4</sub> (Sulphuric Acid))	145	cm <sup>3</sup> /g	ISO 307
<b>Mechanical</b>			
Tensile Strength	70	MPa	ISO 527-2
- Conditioned	45	MPa	ISO 527-2
Tensile Strain at Break, (Type 1A, 5 mm/min)	3.5	%	ISO 527-2
Flexural Modulus, (2.0 mm/min)	3300	MPa	ISO 178
Tensile Stress at Break, (Type 1A, 5 mm/min)	70.0	MPa	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	3500	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	1300	MPa	ISO 527-1
Flexural Stress, (2.0 mm/min, 5.8%)	125	MPa	ISO 178
Tensile Strain at Tensile Strength	3	%	ISO 527-2
- Conditioned	30	%	ISO 527-2
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	4.0	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	3.0	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	8.0	kJ/m <sup>2</sup>	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	50	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	40	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	No Break		ISO 179
<b>Thermal</b>			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	200	°C	ISO 306
(A (10N), 50 °C/h)	215	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa)	175	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa)	70	°C	ISO 75-2/A
<b>Electrical</b>			

Comparative Tracking Index (CTI), (Solution A)	600	V	IEC 60112
<b>Flammable</b>			
Burning Rate			
(2.00 mm)	<100	mm/min	FMVSS 302
(2.00 mm)	<100	mm/min	ISO 3795
Glow Wire Flammability Index			
(0.75 mm)	960	°C	IEC 60695-2-12
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(0.75 mm)	775	°C	IEC 60695-2-13
(1.5 mm)	775	°C	IEC 60695-2-13
(3.0 mm)	775	°C	IEC 60695-2-13
<b>UL Information</b>			
Flame Rating			
(1.6 mm)	V-0		UL 94
(3.2 mm)	V-0		UL 94
(0.8 mm)	V-0		UL 94
Flammability Classification			
(0.8 mm)	V-0		IEC 60695-11-10, -20
(1.6 mm)	V-0		IEC 60695-11-10, -20
(3.2 mm)	V-0		IEC 60695-11-10, -20

Injection Parameters	Nominal Value	Units
Drying Time	3.0 to 4.0	hr
Drying Temperature	80	°C
Suggested Max Moisture	0.040 to 0.10	%
Screw Speed	<250	mm/sec
Processing (Melt) Temp	240 to 260	°C
Injection Rate	Slow-Moderate	
Mold Temperature	60 to 100	°C